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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/573,061

03/21/2006

Raanan Ben-Horin

7031P017

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09/26/2007

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EXAMINER

ANDERSON, DENISE R

ART UNIT

PAPER NUMBER

1743

MAIL DATE

DELIVERY MODE

09/26/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/573,061	BEN-HORIN, RAANAN	
	Examiner	Art Unit	
	Denise R. Anderson	1709	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☒ Claim(s) 1 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 March 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>3 July 2006</u> . | 6) <input type="checkbox"/> Other: _____ |

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the piston assembly must be shown (presumably applicant will just include reference number 128 on Figure 2) or the feature(s) canceled from the claim(s). No new matter should be entered.

2. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. The abstract of the disclosure is objected to because "intermediate an" should read "intermediate to an" in the second line. Correction is required. See MPEP § 608.01(b).

Claim Objections

4. Claim 1 is objected to because of the following informality: "Housing" should read "a housing" in line 3. Appropriate correction is required.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims 1 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sadan et al. (US Patent No. 6,398,037 B1). An element-by-element matching of the claim limitations to the prior art is shown below. The claims appear in italics and the prior art and examiner's comments are in normal font.

Claim 1. A liquid filtering device, particularly for irrigation water installations
(Sadan et al., Column 1, lines 5-7) *comprising:*

Housing (Sadan et al., Figures 1 and 10, reference parts 14 and 12) *with an inlet port* (Sadan et al., Figure 1, reference part 16; Figure 10, reference part 20) *and an outlet port* (Sadan et al., Figure 1, reference part 20; Figure 10, reference part 16);

a core member (Sadan et al., Figures 1 and 10, reference part 24) *centrally mounted within the housing comprising at one axial end thereof an abutment ring* (Sadan et al., Figure 1, reference part 38) *associated with a male screw-thread for mounting the core member to the housing next to and in communication with the inlet port;*

a discs-type filter member (Sadan et al., Figures 1 and 10, reference part 70) *supported by the core-member so that water flowing from the inlet port enters the filter member in a radial direction, and is discharged through the outlet port, and vice-versa during reversed, filter flushing flow cycles;*

a piston assembly (Sadan et al., Figure 1, reference part 28) *mounted to the core member comprising a piston* (Sadan et al., Figure 1, reference part 58) *and a displaceable member* (Sadan et al., Figure 1, reference part 52)

coupled to the piston and abutting against the filter member at the other axial side thereof;

characterized in that the mounting of the core member comprises a female screw-threaded split ring (Sadan et al., Figure 1, the female thread area of reference part 82) matching the male screw-thread; and
a circular convergent cone shaped trough (Sadan et al., Figure 1, reference part 80 and reference part 82 minus the female thread area)
encompassing the split ring and fixedly mounted to housing, the arrangement being such that upon threading together, the split-ring is attracted towards the abutment ring and thus becomes self-tightened against the cone-shaped wall of the trough.

Sadan et al. discloses the claimed invention except that the split ring and the trough are integral and applicant makes them separable. It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the split ring and the trough separable, since it has been held that constructing a formerly integral structure in various elements involves only routine skill in the art. *Nerwin v. Erlichman*, 168 USPQ 177, 179.

Claim 5. The device as claimed in claim 1 wherein the piston assembly is provided with means for limiting the progress amount of the piston.

Sadan et al. discloses or suggests all claim 1 limitations and further teaches a means for limiting the progress amount of the piston in the form of a spring with

two end-plates, one end-plate being fixed and the other end-plate being movable.

Sadan et al., Figure 1, the spring is reference part 52; the movable end-part is reference parts 54a and 54b; the fixed end-plate is reference part 56.

8. Claims 2-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sadan et al. (US Patent No. 6,398,037 B1) as applied to claim 1 above, and further in view of Clark et al. (US Patent No. 3,515,415). The claims appear in italics and the prior art and examiner's comments are in normal font.

Claim 2. The device as claimed in claim 1 wherein the said trough is open at at least one side thereof allowing the split ring to be inserted therein by elastically squeezing same into a smaller diameter.

Sadan et al. discloses or suggests all claim 1 limitations but does not teach the split ring that can be elastically deformed. Clark et al. teaches such a split ring in Figure 1, reference part 3. It would have been obvious to one having ordinary skill in the art at the time the invention was made to join the core member to the housing using a split ring that can be elastically deformed as taught by Clark et al., since Clark et al. states at Column 2 lines 13-16 that such a modification would allow the split ring to be deformed during placement into position and then allow the split ring to "automatically return" to the undeformed state when the core member and housing are threaded together.

Claim 3. The device as claimed in claim 2 wherein the said trough is integrally formed with a fitting communicating the core member with the inlet port of the filter member.

Sadan et al., in view of Clark et al., discloses or suggests all claim 2 limitations and, in Figure 10, further teaches that the inlet port 20 communicates with the core member (Figure 1, reference part 24) through a fitting.

Claim 4. The device as claimed in claim 3 wherein a stop is provided within the trough for avoiding free rotation of the split ring.

Sadan et al., in view of Clark et al., discloses or suggests all claim 3 limitations. In Figure 1, Clark et al. further teaches a stop to avoid the free rotation of the split ring in the form of a "collar 6." The "collar 6" slides over the "ring portion 4" and is "held there by friction." "Thereafter, threads 7 and 5 are engaged in the usual manner." Clark et al., Column 2, lines 23-25. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have included a stop as taught by Clark et al., since Clark et al. states at Column 2, lines 26-27 that such a modification would "hold the nut (applicant's split ring) in a fixed circular configuration."

The Clark et al. stop is "within the trough" where the trough is shown in Figure 2 as reference parts 2, 3, and 4 (minus the female thread area which would be applicant's female screw-threaded split ring). In summary, Sadan et al., in view of Clark et al., discloses or suggests all claim 4 limitations.

9. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sadan et al. (US Patent No. 6,398,037 B1), in view of Clark et al. (US Patent No. 3,515,415) as applied to claim 5 above, and further in view of Orberg et al. (Erik Orberg et al., "26th Edition Machinery's Handbook," pub. Industrial Press Inc., New York, 2000, of particular relevance is the example shown, starting on page 300). The claim appears below in italics with the prior art and examiner's comments in normal font.

Claim 6. The device as claimed in claim 5 wherein said means comprise a coil spring, the number and size of the coils being designed so as to limit the stroke of the piston following a predetermined compression thereof.

Sadan et al., in view of Clark, discloses or suggests all claim 5 limitations. It would have been obvious to one having ordinary skill in the art at the time the invention was made to design the spring to limit the stroke of the piston since it was known in the art how to design springs to compress a given length when under a given load. Orberg et al. provides such an example, starting on page 300. The spring is to compress from 2-1/2 inches to 1-1/4 inches under a 36-pound load. The number and size of coils in the spring is determined.

10. Claims 7 and 8 are rejected under 35 U.S.C. 103(a). The claims appear below with the prior art and examiner's comments in normal font.

Claim 7. The device as claimed in any of claims 1-6 in use as one of a plurality of filter devices operating in parallel.

Claim 8. The device as claimed in any of claims 1-6 in use as one of a plurality of filter devices operating in series.

Claim 7 depends on “any of claims 1-6” and claim 8 depends on “any of claims 1-6.” Each of claims 1 through 6 were rejected on the merits above and that reasoning is valid here but will not be repeated. Claims 7 and 8 recite mere duplication of parts for each of rejected claims 1 through 6 – and are rejected on that basis. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have duplicated the claimed liquid filtering devices to be used throughout the water irrigation system in both series and parallel configurations, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

Claims 7 and 8 are also rejected on the basis of prior art. Both claim 7 and claim 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sadan et al. (US Patent No. 6,398,037 B1) which was the primary reference in claims 1 through 6. Sadan et al. discloses, at Column 1, lines 17-21, that irrigation systems can have “a centrally extending conduit” with the function of “leading the flushing water to a series of nozzles provided thereon.” Claim 7 recites a plurality of filter devices in parallel, i.e. the centrally extending conduit and claim 8 recites a plurality of filter devices in series, i.e., the series of nozzles provided thereon. In summary, claims 7 and 8 are obvious over the prior art.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Several limitations of applicant's claimed liquid filtering device are shown in these references.

US 6419826 B1	07/16/2002	210/304	Lara; Manuel Garcia et al.
US 4655910 A	04/07/1987	210/107	Tabor; Elhanan

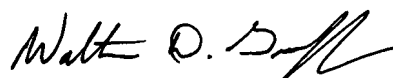
12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Denise R. Anderson whose telephone number is 571-270-3166. The examiner can normally be reached on Monday through Thursday, from 8:00 am to 6:00 pm.

13. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Walter D. Griffin can be reached on 571-272-1447. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

14. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Art Unit: 1709

DRA

A handwritten signature in black ink, appearing to read "Walter D. Griffin", with a stylized flourish at the end.

WALTER D. GRIFFIN
SUPERVISORY PATENT EXAMINER